

AMENDMENT TO THE CLAIMS

1. (Previously Amended) An expression cassette including a sequence encoding an insulin secretory signal operably linked to a heterologous sequence encoding somatotropin.

2. (Original) An expression cassette according to claim 1, wherein the insulin secretory signal has the amino acid sequence shown as SEQ ID NO:1.

3. (Previously Amended) An expression cassette according to claim 1, wherein the insulin secretory signal is a modified insulin secretory signal which has one or more amino acid modifications of the amino acid sequence shown as SEQ ID NO:1 and has substantially the same overall biological activity as an insulin secretory signal having the amino acid sequence shown as SEQ ID NO: 1.

Claims 4 and 5 (Cancelled)

6. (Previously Amended) An expression cassette according to claim 1 wherein the heterologous sequence encodes porcine somatotropin.

7. (Currently Amended) An expression cassette according to ~~any of~~ claims 1 ~~to 6~~, further including one or more regulatory elements to enable pulsatile expression of the heterologous sequence.

8. (Currently Amended) A vector including an expression cassette according to ~~any one of~~ claims 1 ~~to 7~~.

9. (Currently Amended) A recombinant cell which includes an expression cassette

D1 according to ~~any one of~~ claims 1 to 7.

10. (Original) A recombinant cell according to claim 9, wherein the cell is a bacterial, yeast, insect or mammalian cell.

11. (Original) A recombinant cell according to claim 10, wherein the cell is a mammalian cell.

12. (Original) A mammalian cell according to claim 11, wherein the cell is a rat myoblast (L6) cell.

D2 13. (Currently Amended) A method of producing somatotropin which includes culturing a recombinant cell of ~~any one of~~ claims 9 to 12 under conditions enabling the expression and secretion of the somatotropin and optionally isolating the somatotropin.

14. (Currently Amended) A capsule for implantation in a host, the capsule including a semi-permeable membrane encapsulating recombinant cells according to ~~any one of~~ claims 9 to 12.

15. (Original) A capsule according to claim 14, wherein the semi-permeable membrane is an alginate-poly-L-lysine-alginate (APA) membrane.

D3 16. (Currently Amended) A method of administering somatotropin to a host, wherein said method includes administering to the host an expression cassette according to ~~any one of~~ claims 1 to 7.

17. (Currently Amended) A method of administering somatotropin to a host, wherein the

method includes implanting in the host a capsule according to claim 14 ~~or 15~~.

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18. (Currently Amended) A method according to claim 16 ~~or 17~~, wherein the host is an animal or human.

19. (Original) A method according to claim 18, wherein the host is a livestock animal.

20. (Original) A method according to claim 19, wherein the livestock animal is a pig.

21. (Original) A method of administering somatotropin to a pig, wherein the method includes implanting in the pig a capsule including a semi-permeable membrane encapsulating recombinant cells, said recombinant cells including and expressing an expression cassette including a sequence encoding an insulin secretory signal operably linked to a heterologous sequence encoding somatotropin, wherein said membrane is permeable to the expressed somatotropin.

22. (Original) A method according to claim 21, wherein the insulin secretory signal has the amino acid sequence shown as SEQ ID NO:1.

23. (Previously Amended) A method according to claim 21, wherein the insulin secretory signal is a modified insulin secretory signal which has one or more amino acid modifications of the amino acid sequence shown as SEQ ID NO:1 and has substantially the same overall biological activity as an insulin secretory signal having the amino acid sequence shown as SEQ ID NO: 1.

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24. (Currently Amended) A method according to ~~any one of~~ claims 21 ~~to 23~~, wherein the recombinant cells are mammalian cells.

25. (Original) A method according to claim 24, wherein the mammalian cells are rat myoblast (L6) cells.

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26. (Currently Amended) A method according to ~~any one of~~ claims 21 ~~to 25~~, wherein the semi-permeable membrane is an alginate-poly-L-lysine-alginate (APA) membrane.

27. (Currently Amended) A method according to ~~any one of~~ claims 21 ~~to 26~~, wherein the pig is implanted with one or more capsules sufficient to achieve secretion of somatotropin of at least 30 ng/ml.

28. (Previously Added) A method according to claim 27, wherein the somatotropin is

porcine somatotropin